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RAW SEQUENCE LISTING DATE: 06/25/2001 PATENT APPLICATION: US/09/777,566A TIME: 11:28:44

Input Set : A:\DIVER1370-6.ST25.txt

Output Set: N:\CRF3\06252001\I777566A.raw



| | 3 | <110 |)> A | PPLI | CANT: | DIV | JERSA | A COI | RPORA | OITA | N | | | | | | | |
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| | 4 | | SI | HORT | , Jay | 7 | | | | | | | | | | | | • |
| | 5 | | | | , Kei | | | | | | | | | | | | | |
| | | -100 | | | | | 1M T () | | 2001 | - T.I. | | * CM 17.1 | D T T T | DIII | | | | munnnon. |
| | | | | TITLE OF INVENTION: RECOMBINANT BACTERIAL PHYTASES AND USES TH | | | | | | | | | | | | | | THEREOF |
| | 9 | <130 |)> F | FILE REFERENCE: DIVER1370-6 | | | | | | | | | | | | | | |
| | 11 | <140 |)> Ci | CURRENT APPLICATION NUMBER: US 09/777,566A CURRENT FILING DATE: 2001-06-11 | | | | | | | | | | | | | | |
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| | | <150 | | | | | | | | | | 18 51 | 28 | | | | | |
| | | <151 | | | | | | | | | ,,,,, | 10,5 | | | | | | |
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| | | <150 | | | | | | | | | 19/2 | 91,9. | 3 I | | | | | |
| | | | | PRIOR FILING DATE: 1999-04-13 | | | | | | | | | | | | | | |
| | 20 | <150 |)> PI | PRIOR APPLICATION NUMBER: US 09/259,214 | | | | | | | | | | | | | | |
| | 21 | <151 | L> PI | PRIOR FILING DATE: 1999-03-01 | | | | | | | | | | | | | | |
| | | | | > PRIOR APPLICATION NUMBER: US 08/910,798 | | | | | | | | | | | | | | |
| | | | 51> PRIOR FILING DATE: 1997-08-13 | | | | | | | | | | | | | | | |
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| | | | 160> NUMBER OF SEQ ID NOS: 4 | | | | | | | | | | | | | | • | |
| | | | 170> SOFTWARE: PatentIn version 3.0 | | | | | | | | | | | | | | | |
| | 30 | <210 | 210> SEQ ID NO: 1 | | | | | | | | | | | | | | • | |
| | 31 | <211 | 11> LENGTH: 1323 | | | | | | | | | | | | | | | |
| | 32 | <212 | L2> TYPE: DNA | | | | | | | | | | | | | | | |
| | | | | | | Foot | orio | ahia | 001 | ; | | | | | | | | |
| | | | 213> ORGANISM: Escherichia coli 220> FEATURE: | | | | | | | | | | | | | | | |
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| | | <221 | | | | | | | | | | | | | | | | |
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| | | <223 | | | | | LION | : n : | LS ar | ıy nı | тсте | JLIG | = | | | | | |
| | | <400 | | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | ccg | | | 48 |
| | 47 | Met | Lys | Ala | Ile | Leu | Ile | Pro | Phe | Leu | Ser | Leu | Leu | Ile | Pro | Leu | Thr | |
| | 48 | 1 | | | | 5 | | | | | 10 | | | | | 15 | | |
| | 50 | cca | caa | tct | gca | ttc | act | cad | agt | gag | cca | gag | cta | aaσ | ctg | gaa | agt | 96 |
| | | | | | | | | | | | | | | | Leu | | | |
| | | rio | GIII | Ser | | THE | лта | GIII | 261 | | 110 | GIU | пец | БуЗ | 30 | Oru | JCI | |
| | 52 | | | | 20 | | | | | 25 | | | | | | | | 1 4 4 . |
| | | | | | | | | | | | | | | | aag | | | 144 |
| | 55 | Val | Val | Ile | Val | Ser | Arg | His | Gly | Val | Arg | Ala | Pro | Thr | Lys | Ala | Thr | |
| | 56 | | | 35 | | | | | 40 | | | | | 45 | | | | |
| | 58 | caa | cta | atσ | cag | gat | atc | acc | cca | σac | αca | taa | cca | acc | tgg | cca | qta | 192 |
| | | | | | | | | | | | | | | | Trp | | | |
| | | OIII | | 1100 | CIII | ASP | val | 55 | 110 | 1101 | 1114 | 115 | 60 | 1111 | 110 | | · u. | |
| | 60 | | 50 | | | | | | | | | | | | | . | | 040 |
| M> | | | | | | | | | | | | | | | | | | 240 |
| | | | Leu | Gly | Trp | Leu | | Pro | Arg | Gly | Gly | | Leu | Ile | Ala | Tyr | | |
| | 64 | ⁶⁵ | | | | | 70 | | | | | 75 | | | | | 80 | |
| | 66 | gga | cat | tac | caa | cgc | cag | cqt | ctq | gta | gcc | gac | gga | ttg | ctg | gcg | aaa | 288 |
| | | | | | | | | | | | | | | | Leu | | | |
| | 68 | 1 | | - 1 | | 85 | | 9 | | | 90 | 1- | 1 | | | 95 | 4 - | • |
| | 00 | | | | | 0 0 | | | | | 20 | | | | | ,, | | |

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Input Set : A:\DIVER1370-6.ST25.txt
Output Set: N:\CRF3\06252001\I777566A.raw

| | | | | | | | | | | • | | | | | | | |
|----------|-----|-------|-------|------------|-------|-------|-------|-------|-------|-------|----------|-----|-------|-------|-------|---------|-------|
| 71 | - | | _ | ccg Pro | - | | | _ | Val | | | | - | Āsp | - | - | 336 |
| 72 | ~-~ | ~~+ | | 100 | | 202 | ~~~ | ~ | 105 | ++- | ~~~ | ~~~ | ~~~ | 110 | ~ ~ ~ | + | 204 |
| | | | | cgt | | | | | | | | | | | | | 384 |
| | GIU | Arg | 115 | Arg | ьуѕ | Inr | сту | | Ата | Pne | Ala | Ата | _ | ьeu | Ala | Pro | |
| 76 70 | ~~~ | +~+ | | 2+2 | 200 | ~+ > | a a + | 120 | ~~~ | ~~~ | ~ a + | 200 | 125 | - ~+ | | ~~+ | 432 |
| | | | | ata | | | | | | | | | | | | | 432 |
| 80 | Asp | 130 | Ald | Ile | IIIL | Val | 135 | IIIT | GIII | AId | ASP | 140 | ser | ser | PIO | ASD | |
| | | | | | | | | | | | . | | | | | | 400 |
| | | | | aat | | | | | | | | | | | | | 480 |
| | | тей | Pne | Asn | Pro | | гуѕ | THE | Gry | val | _ | GIN | Leu | Asp | ASI | | |
| | 145 | | | | | 150 | ~+~ | | | | 155 | ~~~ | + | -+- | ~~+ | 160 | E 2.0 |
| | | | | gac | | | | | | | | | | | | | 528 |
| | Asn | vaı | Thr | Asp | | тте | ьeu | Ser | Arg | | GTÀ | стА | Ser | lle | | Asp | |
| 88 | | | | | 165 | | | | | 170 | | | | | 175 | - 4- 4- | F7.6 |
| | | | | cat | | | | | | | | | | | | | 576 |
| | Phe | Thr | GLy | His | Arg | GIn | Thr | Ala | | Arg | Glu | Leu | GLu | - | val | Leu | |
| 92 | | | | 180 | | | | | 185 | | | | | 190 | | | 604 |
| | | | _ | caa | | | - | - | | | - | | | - | - | - | 624 |
| | Asn | Phe | | Gln | Ser | Asn | Leu | _ | Leu | Lys | Arg | GLu | _ | GIn | Asp | Glu | • |
| 96 | | | 195 | | | | | 200 | | | | | 205 | | | | |
| | | | | tta | | | | | | | | | | | | | 672 |
| | | | | Leu | Thr | Gln | | | Pro | Ser | Glu | | | Val | Ser | Ala | |
| 100 | | 210 | | | | | 215 | | | | | 220 | | | | | |
| | | | | | | | | | | | | | | | | acg | 720 |
| | _ | | Val | l Ser | Let | | _ | Ala | a Val | L Ser | | | i Sei | : Met | : Leu | | |
| | 225 | | | | | 230 | | | | | 235 | | | | | 240 | 7.00 |
| | | | | | | | | | | | | | | | | tgg | 768 |
| | | ı Ile | Ph€ | e Leu | | | ı Glr | ı Ala | a Glr | | | Pro |) GI | ı Pro | | | |
| 108 | | | | | 245 | | | | | 250 | | | | | 255 | | |
| | | | | acc | | | | | | | | | | | | | 816 |
| | - | , Arg | Ile | e Thr | _ | Ser | His | GIr | _ | | 1 Thr | Let | ı Let | | | His | |
| 112 | | | | 260 | | | | | 265 | | | | | 270 | | | 0.54 |
| | | | | | | | | | | | | | | | | agc | 864 |
| | | ı Ala | | | Yı | . Leu | ı Lev | | | g Thr | Pro | Glu | | | a Arg | Ser | |
| 116 | | | 275 | | | | | 280 | | | | | 285 | | | • | |
| | | | | c ccg | | | | | | | | | | | | | 912 |
| | _ | | | r Pro |) Lei | ı Leu | - | | ı Ile | e Met | : Ala | Ala | ı Lei | ı Thr | Pro | His | |
| 120 | | 290 | | | | | 295 | | | | | 300 | | | | | |
| | | | | a aaa | | | | | | | | | | | | | 960 |
| | | | Glr | n Lys | Glr | n Ala | Tyr | · Gl | / Val | l Thr | | | Thi | Ser | . Val | Leu | |
| | 305 | | | | | 310 | | | | | 315 | | | | | 320 | |
| | | | | | | | | | | | | | | | | ctg | 1008 |
| | | : Ile | : Ala | a Gly | | | Thr | Asr | ı Leı | | | Let | ı Gly | / Gly | | | |
| 128 | | | | | 325 | | | • | | 330 | | | | | 335 | | |
| | | | | c tgg | | | | | | | | | | | | | 1056 |
| | | Let | ı Asr | | | . Leu | ı Pro | Gl; | | | Asp | Asr | 1 Thi | | | Gly | |
| 132 | | | | 340 | | | | | 345 | | | | | 350 | | | |
| 134 | ggt | gaa | cto | g gtg | , ttt | gaa | cgc | : tgg | g cgt | cgg | g cta | ago | gat | aac | ago | cag | 1104 |
| | | | | | | | | | | | | | | | | | |

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Input Set : A:\DIVER1370-6.ST25.txt
Output Set: N:\CRF3\06252001\1777566A.raw

| 135 136 | Gly | Glu | Leu 355 | Val | Phe | Glu | Arg | Trp 360 | Arg | Arg | Leu | Ser | Asp 365 | Asn | Ser | Gln | |
|--|---|---|---|---|--|--|---|--|--|--|--|--|--|---|---|--|-------|
| 138 | taa | att | cad | gtt | tca | cta | atc | ttc | cad | act | tta | cad | cad | atα | cat | gat | 1152 |
| | | | | Val | | | | | | | | | | | | | 1101 |
| 140 | _ | 370 | GIII | vai | Ser | пец | 375 | 1116 | . 01.11 | 1111 | пец | 380 | GIII | 116 0 | ALG | Asp | • |
| | | | | | | | | | | | | | | | - 4 | | 1000 |
| | | | | ctg | | | | | | | | | | | | | 1200 |
| 143 | Lys | Thr | Pro | Leu | Ser | | Asn | Thr | Pro | Pro | _ | Glu | Val | Lys | Leu | Thr | |
| 144 | 385 | | | | | 390 | | | | | 395 | | | | | 400 | |
| 146 | ctg | gca | gga | tgt | gaa | gag | cga | aat | gcg | cag | ggc | atg | tgt | tcg | ttg | gca | 1248 |
| 147 | Leu | Āla | Gly | Cys | Glu | Glu | Arg | Asn | Ala | Gln | Glv | Met | Cys | Ser | Leu | Āla | |
| 148 | | | _ | - | 405 | | - | | | 410 | - | | _ | | 415 | | |
| | aat | +++ | acq | caa | atc | ata | aat | gaa | aca | | ata | cca | aca | tac | agt | tta | 1296 |
| | | | | Gln | | | | | | | | | | | | | 1230 |
| | GLY | 1.116 | 1111 | 420 | 110 | vai | 7311 | OIU | | ALG | 110 | 110 | 111.C | | JCI | . DCu | |
| 152 | | | | | | | | | 425 | | | | | 430 | | | 1222 |
| | _ | | | cac | | | | | taa | | | | | | | | -1323 |
| | _ | Ser | | His | His | His | His | | | | | | | | | | |
| 156 | | | 435 | | | | | 440 | | | | | | | | | |
| 159 | <210 |)> SE | EQ II | ON C | : 2 | | | | | | | | | | | | |
| 160 | <21 | 1> LE | ENGT | H: 44 | 40 | | | | | | | | | | | | |
| 161 | <212 | 2> T | PE: | PRT | | | | | | | | | | | | | |
| | | | | ISM: | Esch | nerio | chia | coli | i | | | | | | | | |
| | | | | | | | ,,,,,, | 00- | _ | | | • | | | | | |
| | 4 <220> FEATURE: 5 <221> NAME/KEY: misc_feature | | | | | | | | | | | | | | | | |
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| | | | | ION: | | | | | | _ | | | | | | | |
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| 169 | <400 |)> SI | EQUE | NCE: | 2 | | | | _ | | | | | | | | |
| 169 | <400 |)> SI | EQUE | | 2 | | | | _ | | | | Ile | Pro | Lėu | Thr | |
| 169 | <400 Met |)> SI | EQUE | NCE: | 2 | | | | _ | | | | Ile | Pro | Leu 15 | Thr | |
| 169 171 172 | <400 Met 1 |)> SI Lys | EQUEN Ala | NCE: | 2 Leu 5 | Ile | Pro | Phe | Leu | Ser 10 | Leu | Leu | | | 15 | | |
| 169 171 172 | <400 Met 1 |)> SI Lys | EQUEN Ala | NCE: Ile | 2 Leu 5 | Ile | Pro | Phe | Leu | Ser 10 | Leu | Leu | | | 15 | | |
| 169 171 172 175 176 | <400 Met 1 Pro |)> SI Lys Gln | EQUEN Ala Ser | NCE: Ile Ala 20 | 2 Leu 5 Phe | Ile Ala | Pro Gln | Phe Ser | Leu Glu 25 | Ser 10 Pro | Leu Glu | Leu Leu | Lys | Leu 30 | 15 Glu | Ser | |
| 169 171 172 175 176 179 | <400 Met 1 Pro |)> SI Lys Gln | EQUEN Ala Ser Ile | NCE: Ile Ala | 2 Leu 5 Phe | Ile Ala | Pro Gln | Phe Ser Gly | Leu Glu 25 | Ser 10 Pro | Leu Glu | Leu Leu | Lys | Leu 30 | 15 Glu | Ser | |
| 169 171 172 175 176 179 180 | <400 Met 1 Pro | D> SI Lys Gln Val | EQUEN Ala Ser Ile 35 | NCE: Ile Ala 20 Val | 2 Leu 5 Phe Ser | Ile Ala Arg | Pro Gln His | Phe Ser Gly 40 | Leu Glu 25 Val | Ser 10 Pro Arg | Leu Glu Ala | Leu Leu Pro | Lys Thr 45 | Leu 30 Lys | 15 Glu Ala | Ser Thr | |
| 169 171 172 175 176 179 180 183 | <400 Met 1 Pro | D> SI Lys Gln Val Leu | EQUEN Ala Ser Ile 35 | NCE: Ile Ala 20 | 2 Leu 5 Phe Ser | Ile Ala Arg | Pro Gln His Thr | Phe Ser Gly 40 | Leu Glu 25 Val | Ser 10 Pro Arg | Leu Glu Ala | Leu Leu Pro | Lys Thr 45 | Leu 30 Lys | 15 Glu Ala | Ser Thr | |
| 169 171 172 175 176 179 180 183 184 | <400 Met 1 Pro Val Gln | D> SH Lys Gln Val Leu 50 | EQUENT Ala Ser Ile 35 Met | NCE: Ile Ala 20 Val Gln | 2 Leu 5 Phe Ser Asp | Ile Ala Arg Val | Pro Gln His Thr 55 | Phe Ser Gly 40 Pro | Leu Glu 25 Val Asp | Ser 10 Pro Arg | Leu Glu Ala Trp | Leu Leu Pro | Lys Thr 45 Thr | Leu 30 Lys Trp | 15 Glu Ala Pro | Ser Thr Val | |
| 169 171 172 175 176 179 180 183 184 | <400 Met 1 Pro Val Gln Lys | D> SH Lys Gln Val Leu 50 | EQUENT Ala Ser Ile 35 Met | NCE: Ile Ala 20 Val | 2 Leu 5 Phe Ser Asp | Ile Ala Arg Val Thr | Pro Gln His Thr 55 | Phe Ser Gly 40 Pro | Leu Glu 25 Val Asp | Ser 10 Pro Arg | Leu Glu Ala Trp | Leu Leu Pro | Lys Thr 45 Thr | Leu 30 Lys Trp | 15 Glu Ala Pro | Ser Thr Val Leu | |
| 169 171 172 175 176 179 180 183 184 187 | <400 Met 1 Pro Val Gln Lys 65 | D> SI Lys Gln Val Leu 50 Leu | EQUENT Ala Ser Ile 35 Met Gly | NCE: Ile Ala 20 Val Gln Trp | 2 Leu 5 Phe Ser Asp | Ile Ala Arg Val Thr | Pro Gln His Thr 55 Pro | Phe Ser Gly 40 Pro | Leu Glu 25 Val Asp Gly | Ser 10 Pro Arg Ala Gly | Leu Glu Ala Trp Glu 75 | Leu Pro Pro 60 Leu | Lys Thr 45 Thr | Leu 30 Lys Trp | 15 Glu Ala Pro Tyr | Ser Thr Val Leu 80 | |
| 169 171 172 175 176 179 180 183 184 187 188 | <400 Met 1 Pro Val Gln Lys 65 | D> SI Lys Gln Val Leu 50 Leu | EQUENT Ala Ser Ile 35 Met Gly | NCE: Ile Ala 20 Val Gln | 2 Leu 5 Phe Ser Asp Leu Arg | Ile Ala Arg Val Thr | Pro Gln His Thr 55 Pro | Phe Ser Gly 40 Pro | Leu Glu 25 Val Asp Gly | Ser 10 Pro Arg Ala Gly | Leu Glu Ala Trp Glu 75 | Leu Pro Pro 60 Leu | Lys Thr 45 Thr | Leu 30 Lys Trp | 15 Glu Ala Pro Tyr Ala | Ser Thr Val Leu 80 | |
| 169 171 172 175 176 179 180 183 184 187 188 191 | <400 Met 1 Pro Val Gln Lys 65 Gly | D> SE Lys Gln Val Leu 50 Leu His | EQUENT Ala Ser Ile 35 Met Gly Tyr | NCE: Ile Ala 20 Val Gln Trp | 2 Leu 5 Phe Ser Asp Leu Arg 85 | Ile Ala Arg Val Thr 70 Gln | Pro Gln His Thr 55 Pro | Phe Ser Gly 40 Pro Arg Leu | Leu Glu 25 Val Asp Gly Val | Ser 10 Pro Arg Ala Gly Ala 90 | Leu Glu Ala Trp Glu 75 Asp | Leu Pro Pro 60 Leu Gly | Lys Thr 45 Thr Ile Leu | Leu 30 Lys Trp Ala Leu | 15 Glu Ala Pro Tyr Ala 95 | Ser Thr Val Leu 80 Lys | |
| 169 171 172 175 176 179 180 183 184 187 188 191 | <400 Met 1 Pro Val Gln Lys 65 Gly | D> SE Lys Gln Val Leu 50 Leu His | EQUENT Ala Ser Ile 35 Met Gly Tyr | NCE: Ile Ala 20 Val Gln Trp | 2 Leu 5 Phe Ser Asp Leu Arg 85 | Ile Ala Arg Val Thr 70 Gln | Pro Gln His Thr 55 Pro | Phe Ser Gly 40 Pro Arg Leu | Leu Glu 25 Val Asp Gly Val | Ser 10 Pro Arg Ala Gly Ala 90 | Leu Glu Ala Trp Glu 75 Asp | Leu Pro Pro 60 Leu Gly | Lys Thr 45 Thr Ile Leu | Leu 30 Lys Trp Ala Leu | 15 Glu Ala Pro Tyr Ala 95 | Ser Thr Val Leu 80 Lys | |
| 169 171 172 175 176 179 180 183 184 187 188 191 | <400 Met 1 Pro Val Gln Lys 65 Gly | D> SE Lys Gln Val Leu 50 Leu His | EQUENT Ala Ser Ile 35 Met Gly Tyr | NCE: Ile Ala 20 Val Gln Trp | 2 Leu 5 Phe Ser Asp Leu Arg 85 | Ile Ala Arg Val Thr 70 Gln | Pro Gln His Thr 55 Pro | Phe Ser Gly 40 Pro Arg Leu | Leu Glu 25 Val Asp Gly Val | Ser 10 Pro Arg Ala Gly Ala 90 | Leu Glu Ala Trp Glu 75 Asp | Leu Pro Pro 60 Leu Gly | Lys Thr 45 Thr Ile Leu | Leu 30 Lys Trp Ala Leu | 15 Glu Ala Pro Tyr Ala 95 | Ser Thr Val Leu 80 Lys | |
| 169 171 172 175 176 179 180 183 184 187 188 191 192 195 | <400 Met 1 Pro Val Gln Lys 65 Gly Lys | D> SI Lys Gln Val Leu 50 Leu His | EQUENT Ala Ser Ile 35 Met Gly Tyr Cys | NCE: Ile Ala 20 Val Gln Trp Gln Pro 100 | 2 Leu 5 Phe Ser Asp Leu Arg 85 Gln | Ile Ala Arg Val Thr 70 Gln Ser | Pro Gln His Thr 55 Pro Arg | Phe Ser Gly 40 Pro Arg Leu Gln | Leu Glu 25 Val Asp Gly Val Val 105 | Ser 10 Pro Arg Ala Gly Ala 90 Ala | Leu Glu Ala Trp Glu 75 Asp | Leu Pro Pro 60 Leu Gly Ile | Lys Thr 45 Thr Ile Leu Ala | Leu 30 Lys Trp Ala Leu Asp 110 | 15 Glu Ala Pro Tyr Ala 95 Val | Ser Thr Val Leu 80 Lys Asp | |
| 169 171 172 175 176 179 180 183 184 187 188 191 192 195 196 199 | <400 Met 1 Pro Val Gln Lys 65 Gly Lys | D> SI Lys Gln Val Leu 50 Leu His | EQUENT Ala Ser Ile 35 Met Gly Tyr Cys | NCE: Ile Ala 20 Val Gln Trp Gln Pro | 2 Leu 5 Phe Ser Asp Leu Arg 85 Gln | Ile Ala Arg Val Thr 70 Gln Ser | Pro Gln His Thr 55 Pro Arg | Phe Ser Gly 40 Pro Arg Leu Gln | Leu Glu 25 Val Asp Gly Val Val 105 | Ser 10 Pro Arg Ala Gly Ala 90 Ala | Leu Glu Ala Trp Glu 75 Asp | Leu Pro Pro 60 Leu Gly Ile | Lys Thr 45 Thr Ile Leu Ala Gly | Leu 30 Lys Trp Ala Leu Asp 110 | 15 Glu Ala Pro Tyr Ala 95 Val | Ser Thr Val Leu 80 Lys Asp | |
| 169 171 172 175 176 179 180 183 184 187 198 191 192 195 196 199 200 | <400 Met 1 Pro Val Gln Lys 65 Gly Lys | D> SI Lys Gln Val Leu 50 Leu His Gly | EQUENT Ala Ser Ile 35 Met Gly Tyr Cys Thr 115 | NCE: Ile Ala 20 Val Gln Trp Gln Pro 100 Arg | 2 Leu 5 Phe Ser Asp Leu Arg 85 Gln | Ile Ala Arg Val Thr 70 Gln Ser Thr | Pro Gln His Thr 55 Pro Arg Gly | Phe Ser Gly 40 Pro Arg Leu Gln Glu 120 | Leu Glu 25 Val Asp Gly Val Val 105 Ala | Ser 10 Pro Arg Ala Gly Ala 90 Ala Phe | Leu Glu Ala Trp Glu 75 Asp Ile Ala | Leu Pro Pro 60 Leu Gly Ile Ala | Lys Thr 45 Thr Ile Leu Ala Gly 125 | Leu 30 Lys Trp Ala Leu Asp 110 Leu | 15 Glu Ala Pro Tyr Ala 95 Val | Ser Thr Val Leu 80 Lys Asp Pro | |
| 169 171 172 175 176 179 180 183 184 187 198 199 200 203 | <400 Met 1 Pro Val Gln Lys 65 Gly Lys | D> SI Lys Gln Val Leu 50 Leu His Gly Arg | EQUENT Ala Ser Ile 35 Met Gly Tyr Cys Thr 115 | NCE: Ile Ala 20 Val Gln Trp Gln Pro 100 | 2 Leu 5 Phe Ser Asp Leu Arg 85 Gln | Ile Ala Arg Val Thr 70 Gln Ser Thr | Pro Gln His Thr 55 Pro Arg Gly Gly His | Phe Ser Gly 40 Pro Arg Leu Gln Glu 120 | Leu Glu 25 Val Asp Gly Val Val 105 Ala | Ser 10 Pro Arg Ala Gly Ala 90 Ala Phe | Leu Glu Ala Trp Glu 75 Asp Ile Ala | Leu Pro 60 Leu Gly Ile Ala Thr | Lys Thr 45 Thr Ile Leu Ala Gly 125 | Leu 30 Lys Trp Ala Leu Asp 110 Leu | 15 Glu Ala Pro Tyr Ala 95 Val | Ser Thr Val Leu 80 Lys Asp Pro | |
| 169 171 172 175 176 179 180 183 184 187 198 199 200 203 204 | <pre><400 Met 1 Pro Val Gln Lys 65 Gly Lys Glu Asp</pre> | Lys Gln Val Leu 50 Leu His Gly Arg Cys 130 | EQUENT Ala Ser Ile 35 Met Gly Tyr Cys Thr 115 Ala | NCE: Ile Ala 20 Val Gln Trp Gln Pro 100 Arg | 2 Leu 5 Phe Ser Asp Leu Arg 85 Gln Lys | Ile Ala Arg Val Thr 70 Gln Ser Thr Val | Pro Gln His Thr 55 Pro Arg Gly Gly His 135 | Phe Ser Gly 40 Pro Arg Leu Gln Glu 120 Thr | Leu Glu 25 Val Asp Gly Val Val 105 Ala Gln | Ser 10 Pro Arg Ala Gly Ala 90 Ala Phe | Leu Glu Ala Trp Glu 75 Asp Ile Ala Asp | Leu Pro Pro 60 Leu Gly Ile Ala Thr | Lys Thr 45 Thr Ile Leu Ala Gly 125 Ser | Leu 30 Lys Trp Ala Leu Asp 110 Leu Ser | 15 Glu Ala Pro Tyr Ala 95 Val Ala | Ser Thr Val Léu 80 Lys Asp Pro Asp | |
| 169 171 172 175 176 179 180 183 184 187 188 191 192 195 196 199 200 203 204 207 | <pre><400 Met 1 Pro Val Gln Lys 65 Gly Lys Glu Asp Pro</pre> | Lys Gln Val Leu 50 Leu His Gly Arg Cys 130 | EQUENT Ala Ser Ile 35 Met Gly Tyr Cys Thr 115 Ala | NCE: Ile Ala 20 Val Gln Trp Gln Pro 100 Arg | 2 Leu 5 Phe Ser Asp Leu Arg 85 Gln Lys | Ile Ala Arg Val Thr 70 Gln Ser Thr Val | Pro Gln His Thr 55 Pro Arg Gly Gly His 135 | Phe Ser Gly 40 Pro Arg Leu Gln Glu 120 Thr | Leu Glu 25 Val Asp Gly Val Val 105 Ala Gln | Ser 10 Pro Arg Ala Gly Ala 90 Ala Phe | Leu Glu Ala Trp Glu 75 Asp Ile Ala Asp Cys | Leu Pro Pro 60 Leu Gly Ile Ala Thr | Lys Thr 45 Thr Ile Leu Ala Gly 125 Ser | Leu 30 Lys Trp Ala Leu Asp 110 Leu Ser | 15 Glu Ala Pro Tyr Ala 95 Val Ala | Ser Thr Val Leu 80 Lys Asp Pro Asp Ala | |
| 169 171 172 175 176 179 180 183 184 187 198 199 200 203 204 207 208 | <pre><400 Met 1 Pro Val Gln Lys 65 Gly Lys Glu Asp Pro 145</pre> | D> SI Lys Gln Val Leu 50 Leu His Gly Arg Cys 130 Leu | EQUENT Ala Ser Ile 35 Met Gly Tyr Cys Thr 115 Ala Phe | NCE: Ile Ala 20 Val Gln Trp Gln Pro 100 Arg Ile Asn | 2 Leu 5 Phe Ser Asp Leu Arg 85 Gln Lys Thr | Ile Ala Arg Val Thr 70 Gln Ser Thr Val | Pro Gln His Thr 55 Pro Arg Gly Gly His 135 Lys | Phe Ser Gly 40 Pro Arg Leu Gln Glu 120 Thr | Leu Glu 25 Val Asp Gly Val Val 105 Ala Gln Gly | Ser 10 Pro Arg Ala Gly Ala 90 Ala Phe Ala | Leu Glu Ala Trp Glu 75 Asp Ile Ala Asp Cys 155 | Leu Pro Pro 60 Leu Gly Ile Ala Thr 140 Gln | Lys Thr 45 Thr Ile Leu Ala Gly 125 Ser Leu | Leu 30 Lys Trp Ala Leu Asp 110 Leu Ser Asp | 15 Glu Ala Pro Tyr Ala 95 Val Ala Pro Asn | Ser Thr Val Leu 80 Lys Asp Pro Asp Ala 160 | |
| 169 171 172 175 176 179 180 183 184 187 198 199 200 203 204 207 208 211 | <pre><400 Met 1 Pro Val Gln Lys 65 Gly Lys Glu Asp Pro 145</pre> | D> SI Lys Gln Val Leu 50 Leu His Gly Arg Cys 130 Leu | EQUENT Ala Ser Ile 35 Met Gly Tyr Cys Thr 115 Ala Phe | NCE: Ile Ala 20 Val Gln Trp Gln Pro 100 Arg | 2 Leu 5 Phe Ser Asp Leu Arg 85 Gln Lys Thr Pro | Ile Ala Arg Val Thr 70 Gln Ser Thr Val | Pro Gln His Thr 55 Pro Arg Gly Gly His 135 Lys | Phe Ser Gly 40 Pro Arg Leu Gln Glu 120 Thr | Leu Glu 25 Val Asp Gly Val Val 105 Ala Gln Gly | Ser 10 Pro Arg Ala Gly Ala 90 Ala Phe Ala Val | Leu Glu Ala Trp Glu 75 Asp Ile Ala Asp Cys 155 | Leu Pro Pro 60 Leu Gly Ile Ala Thr 140 Gln | Lys Thr 45 Thr Ile Leu Ala Gly 125 Ser Leu | Leu 30 Lys Trp Ala Leu Asp 110 Leu Ser Asp | 15 Glu Ala Pro Tyr Ala 95 Val Ala Pro Asn Ala | Ser Thr Val Leu 80 Lys Asp Pro Asp Ala 160 | |
| 169 171 172 175 176 179 180 183 184 187 198 199 200 203 204 207 208 211 212 | <pre><400 Met 1 Pro Val Gln Lys 65 Gly Lys Glu Asp Pro 145 Asn</pre> | D> SI Lys Gln Val Leu 50 Leu His Gly Arg Cys 130 Leu Val | EQUENT Ala Ser Ile 35 Met Gly Tyr Cys Thr 115 Ala Phe Thr | NCE: Ile Ala 20 Val Gln Trp Gln Pro 100 Arg Ile Asn | 2 Leu 5 Phe Ser Asp Leu Arg 85 Gln Lys Thr Pro | Ile Ala Arg Val Thr 70 Gln Ser Thr Val Leu 150 Ile | Pro Gln His Thr 55 Pro Arg Gly Gly His 135 Lys Leu | Phe Ser Gly 40 Pro Arg Leu Gln Glu 120 Thr Thr Ser | Leu Glu 25 Val Asp Gly Val 105 Ala Gln Gly Arg | Ser 10 Pro Arg Ala Gly Ala 90 Ala Phe Ala Val Ala 170 | Leu Glu Ala Trp Glu 75 Asp Ile Ala Asp Cys 155 Gly | Leu Pro 60 Leu Gly Ile Ala Thr 140 Gln Gly | Lys Thr 45 Thr Ile Leu Ala Gly 125 Ser Leu Ser | Leu 30 Lys Trp Ala Leu Asp 110 Leu Ser Asp | 15 Glu Ala Pro Tyr Ala 95 Val Ala Pro Asn Ala 175 | Ser Thr Val Leu 80 Lys Asp Pro Asp Ala 160 Asp | |

RAW SEQUENCE LISTING DATE: 06/25/2001 PATENT APPLICATION: US/09/777,566A TIME: 11:28:44

Input Set : A:\DIVER1370-6.ST25.txt

Output Set: N:\CRF3\06252001\I777566A.raw

| 216 | | | | 180 | | | | | 185 | | | | | 190 | | | | |
|-----|------------|------------|-------|-------|--------|-----------|--------|----------|--------|-------|------|------------|--------|-------|---------|-------|---|----|
| 219 | Asn | Phe | Pro | | Ser | Asn | Leu | Cys | | Lvs | Ara | Gľu | Lvs | | Asp | Glu | | |
| 220 | | | 195 | | | | | 200 | | | , | | 205 | | | | | |
| | Ser | Cvs | Ser | Leu | Thr | Gln | Ala | Leu | Pro | Ser | Glu | Leu | Lvs | Val | Ser | Ala | | |
| 224 | | 210 | | | | | 215 | | | | - | 220 | 4 | | | | | |
| | Asp | | Val | Ser | Leu | Thr | | Ala | Val | Ser | Leu | | Ser | Met | Leu | Thr | | |
| | 225 | | | | | 230 | 1 | | | | 235 | | | | | 240 | | |
| | | | Phe | Leu | Leu | | Gln | Ala | Gln | Glv | | Pro | Glu | Pro | Glv | | | |
| 232 | 014 | | | Lou | 245 | 0 | 0 | | 01 | 250 | | | 00 | | 255 | 112 | | |
| | Glv | Ara | Tle | Thr | | Ser | His | Gln | Trn | | Thr | Leu | I.e.11 | | | His | | |
| 236 | Ory | 111.9 | 440 | 260 | 1100 | JCI | 1110 | OIII | 265 | 11011 | 1111 | шси | пси | 270 | DCu | 111.5 | | |
| | Δen | Δla | Gln | | ጥህን | I.e.ii | T.e.11 | Gln | | Thr | Pro | Glu | Val | | Δra | Ser | | |
| 240 | 17511 | 111 a | 275 | 1110 | 1 y 1 | ьси | ьси | 280 | 1119 | 1111 | 110 | Olu | 285 | 111 a | 1119 | DCI | - | |
| | Λrα | Δla | | Dro | Lou | Lou | Aen | Leu | Tlo | Mot | Nlα | ΛΙລ | | Thr | Dro | Hic | | |
| 244 | ALG | 290 | 1111 | FIO | пеп | Leu | 295 | пеп | 116 | 1366 | ліа | 300 | пец | 1111 | 110 | 1112 | | |
| | Dro | | Cln | T | Cln | ת ו ת | | Gly | W-1 | Thr | Tou | | Thr | Sor | Wal. | T 011 | | |
| | | FLO | GTII | гÃ2 | GIII | 310 | тут | вту | vaı | 1111 | 315 | FIO | 1111 | Ser | val | 320 | | |
| | 305 | т1. | 7.1. | C1 | II i o | | mb w | 7 | T 0.11 | 71. | | T 011 | C1 | C1 | 7. 7. ~ | | | |
| | Pne | тте | Ala | GIY | | ASP | Inr | Asn | ьeu | | ASII | ьеи | GTÀ | дту | | ьеи | | |
| 252 | C1 | T | 70 | | 325 | T | D | G1 | G1 | 330 | 70 | 70 | m 1 | D | 335 | C1 | | |
| | GLU | Leu | Asn | _ | | Leu | Pro | Gly | | Pro | Asp | Asn | Thr | | Pro | GTA | | |
| 256 | ~ 1 | ~ 1 | _ | 340 | | 01 | | m | 345 | | - | 0 | 70 | 350 | 0 | 01 | | |
| | GLY | Glu | | vaı | Phe | GIU | Arg | Trp | Arg | Arg | Leu | Ser | - | Asn | Ser | Gin | | |
| 260 | _ | | 355 | | _ | _ | | 360 | ~ 1 | | _ | ~ 1 | 365 | | | _ | | |
| | Trp | | GIn | Val | Ser | Leu | | Phe | GIn | Thr | Leu | | Gin | Met | Arg | Asp | | |
| 264 | | 370 | | | _ | _ | 375 | | | | | 380 | | _ | _ | | | |
| | _ | Thr | Pro | Leu | Ser | | Asn | Thr | Pro | Pro | | Glu | Val | Lys | Leu | | | |
| | 385 | | | | | 390 | | <u>.</u> | | | 395 | | _ | | _ | 400 | | |
| | Leu | Ala | Gly | Cys | | Glu | Arg | Àsn | Ala | | Gly | Met | Cys | Ser | | Ala | | |
| 272 | | | | | 405 | | | | _ | 410 | _, | | | | 415 | | | |
| | Gly | Phe | Thr | | Ile | Val | Asn | Glu | | Arg | Ile | Pro | Ala | | Ser | Leu | | |
| 276 | | | | 420 | | | | | 425 | | | | | 430 | | | | |
| | Arg | Ser | | His | His | His | His | _ | | | | | | | | | | |
| 280 | | | 435 | | _ | | | 440 | | | | | | | | | | |
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| | | | | | | rion: | : Pr | imer | for | PCR | | | | | | | | |
| | |)> SE | | | | | | | | | | | | | | | | • |
| 304 | gttt | ctg | gat d | cctta | acaaa | ac to | gcac | gccg | g tai | - | | | | | | | | 33 |

VERIFICATION SUMMARY

DATE: 06/25/2001

PATENT APPLICATION: US/09/777,566A

TIME: 11:28:45

Input Set : A:\DIVER1370-6.ST25.txt

Output Set: N:\CRF3\06252001\I777566A.raw

L:12 M:271 C: Current Filing Date differs, Replaced Current Filing Date

L:62 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:1